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SCIENTIFIC AND TECHNICAL INFORMATION

CAMERON STATION, ALEXANDRIA, VIRGINIA



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TEST PROGRESS DATA

NAVAER-2835 (REV. 10-55)

AER-REP-GM-11-N1239/4/64

N1239/bc DATE 13 FEB 1964

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One RF-8A aircraft was employed to obtain a photographic record of target separation and one DF-8A aircraft was utilized for chase to monitor target altitude and speed.

One mainland and one San Nicolas Island instrumentation C-band radars (FPS-16) were scheduled to track the DF-8A chase aircraft for the purpose of obtaining metric radar data. In addition, three mainland theodolite camera stations were scheduled for the purpose of obtaining a photographic record of the target flight.

TEST OBJECTIVES:

- a. Determine the target low altitude, level flight profile, when launched at 2,000 feet pressure altitude at a speed of 0.6 Mach indicated.
- b. Verify target separation characteristics from the A-4B aircraft in a low altitude environment.

TEST RESULTS:

The radar data that were recorded for this target flight operation were of poor quality because of the low altitudes encountered. As a result, pilot reports and photographic data were the prime sources of data from which target performance could be determined.

The useable flight data indicate that the target was successfully launched from the fuselage centerline station of the A-4B aircraft at a radar altitude of 1,950 feet and a speed of 0.6 Mach. Photographic coverage obtained of the target separation indicates normal target attitude and vertical rate of descent following launch. Pilot reports of the target flight indicate the target descended rapidly to approximately 350 feet altitude, momentarily assumed a horizontal attitude, then continued to descend and impacted into the sea at 33 seconds. No data are available to determine the time of engine ignition; however, it was reported by the chase pilot that the engine was operating from approximately 5 seconds to sea impact.

No useable film was obtained from the theodolite camera stations because of a haze condition in the launch area.

DISCUSSION:

Because the target was not telemetry configured, the cause of the excessive postlaunch descent experienced during this flight test cannot be determined.

Additional captive flight tests and target launches using telemetry configured targets will be conducted to fully investigate AQM-37A capabilities in the low altitude region. The specific areas to be investigated are as follows:

- a. Errors in the target altitude sensing system induced by non-uniform airflow around the target prior to launch.
- b. Sensitivity of the target pitch control system.
- c. Pitch attitude of the target at launch.

CONCLUSIONS:

The following conclusions are made in corresponding order of the test objectives:

- a. Because the target did not maintain level flight, there was no test to determine the target low altitude, level flight profile after being launched at 2,000 feet pressure altitude at a speed of 0.6 Mach indicated.
- b. The target separation characteristics from the A-4B aircraft in a low altitude environment appear to be satisfactory.